

Applied Physics

Nature Acclimatizes Prof's Home

By Barbara Shuck
On a sunny day when it was 10 degrees above zero outside, Professor Theodore Jorgensen's house was warm even though his furnace was off from 9:30 a.m. to 4:30 p.m.

His house, partially heated by solar energy, keeps a constant 70 degree temperature all winter long.

Jorgensen, a professor of physics at the University of Nebraska, and his wife designed and built their own home.

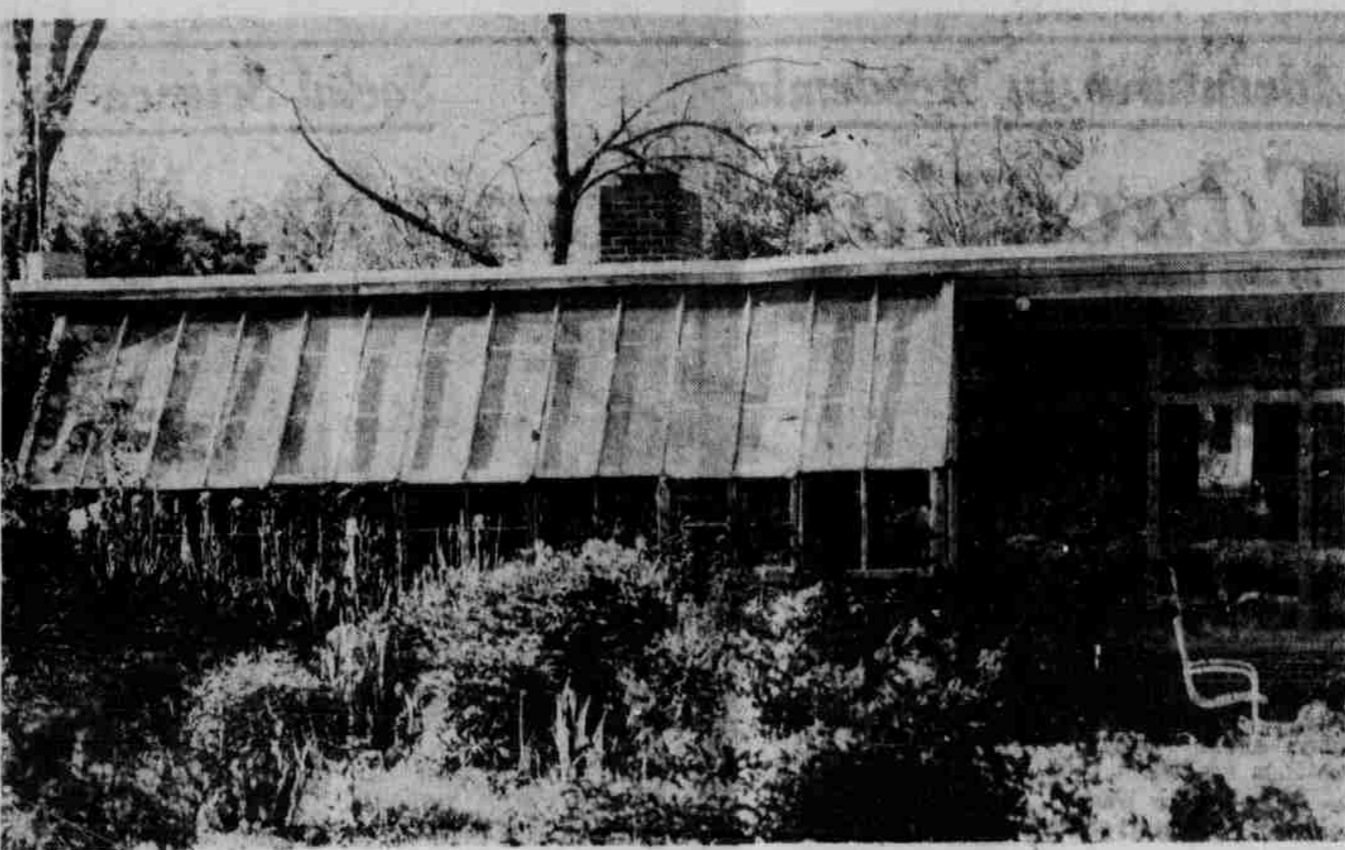
They designed the eaves of the house so that in the summer the minimum amount of sun strikes the large windows which form the south wall of the house. In the winter the earth is at a different angle to the sun, and the long rays reach across the room, warming it. On the shortest day of winter, the maximum amount of sun shines in their house.

Saves Heat
The windows have a double pane which reduces the heat loss. Air is a poor conductor of heat, said Jorgensen, and the air trapped between the two panes of glass prevents transfer of heat from the inside to the outside.

Light passes through the window and strikes a slate floor which absorbs energy. The energy is radiated from the floor as heat. Underneath the slate is a tile base which won't conduct the heat, so the heat is returned through the room. Because the sun's light caused the heat, the room is heated by the sun.

Professor Jorgensen chose blue-gray slate for his floors because it radiates and conducts heat well. He added that it had housekeeping advantages, too, because mopping was the only cleaning necessary.

Under the floor lies one-half inch copper tubing filled with water. This water is warmed and helps to maintain a uniform temperature. The tubes are laid six inches apart underneath the heated area of the house. On a cold day the temperature of the water may rise to a little



Nature helps heat and cool the home built by Prof. Jorgensen.

above body temperature.

The tubing is encased in concrete on a base of hollow tile. The hollow tile prevents heat transfer into the earth.

When the temperature drops below the desired level, a thermostatically controlled furnace warms the water, which is circulated through the tubing by a small pump.

Once the heat is inside the house, it does not escape. The house has a double brick outside wall 10 inches thick with an air cavity in the middle. The cavity is filled with fiberglass insulator.

Repell Heat, Too

Under the roof Jorgensen placed aluminum foil above the rafters. In the summer-time it acts as a barrier to help keep out the sun's heat.

The house can be cooled by running cold water through the copper pipes under the floor in the summer. Most of the time this is not really necessary, Jorgensen said, because with the use of a heavy fan to

draw in cool night air, the house has never gotten above 83 degrees inside.

A brick fireplace covers one entire wall of the living room.



Prof. T. R. Jorgensen

"I burn wood in it nearly every day," said Jorgensen. "This is one of my favorite features of the house."

In his living room he has an organ which his brother,

an electrical engineer, helped design.

The kitchen is very compact, yet has space for two stoves, electric and gas. Jorgensen uses gas for Chinese cooking because he can regulate the heat more easily.

A small greenhouse is included in the house. Inside this greenhouse he grows many plants, including winter roses. His study is near the greenhouse so that when he pauses in his work he can tend his flowers.

Storage space, which holds a "truckload" of things, according to Jorgensen, opens off the porch. The storage space extends into the garage and the hood of the car fits under the bottom of it.

"I utilized all the space," said Jorgensen.

The coat closet, which is recessed in the wall, fits into storage closets which line a bedroom wall on the other side.

"We have never really filled our storage space," said Jorgensen. Both bedrooms,

both bathrooms and a hallway have closet space.

It took Professor Jorgensen and his wife three and one-half years to build the house.

Mrs. Barbara Shuck is an English graduate from Hastings College. Between feeding her husband, Elmer, and diapering their one-year-old son, Mrs. Shuck is working toward a journalism certificate at the University of Nebraska. She is interning this summer at The Lincoln Journal.

It has about 22,000 bricks, said Jorgensen.

"The most we laid in a day was 307," he added.

Professor and Mrs. Jorgensen drew their own blueprints. He said that about twenty years of planning and study went into the house.

He added, "It's the type of house more professors ought to build to give students an idea of how to put theory to work."

Reading Suggestions Aid Individual African Study

Compiled by the staff of Love Memorial Library, the studies on the following list are planned to acquaint the interested reader with the foundations of modern Africa. Africa. Published quarterly by Oxford University as the journal of the International Africa Institute, this periodical contains articles on the social, cultural and economic life in Africa, as well as news notes and book reviews. A valuable feature of each issue is the bibliography of current publications on Africa.

of Anthropology at Northwestern University, this volume makes note of the change, or lack of change, that contact with present civilization and the upsurge of African nationalism has made on African life today.

Education Committed To What?

Continued from Page 1 known," Shapiro said, were all students of the humanities as well as specialists.

According to Bates, the time for specialization is near the crux of the problem. In the social sciences, he said, "we don't expect to be professionals without graduate study."

With the fellowships and grants available today, Bates said, almost any student who can complete four years of college can afford to stay in school for graduate study.

Social science majors, he added, have as broad a liberal education as any University students — and often broader than majors in the humanities.

"Second-rate Literature" This is partially due, he felt, to the fact that students and professors of the "humanities may take social sciences as a second-rate literature."

The difference between humanities and social sciences, he emphasized, is of method more than material: social sciences are based upon the scientific method, but deal with material more common to the humanities.

But Bates does not see one area of study as a substitute for another. With Hobson and Shapiro, he agreed that no one field is broad enough for a liberal education to be taken from it alone.

What Kind of Education? The question remains — "commitment to what kind of education?" How much knowledge in one area should we sacrifice for how much knowledge in another area?

Is an educated man one with a broad background in all the humanities and in the sciences, as Shapiro suggests, or one who is introduced to the humanities and sciences as well as his specialty and shown how to obtain more information for himself if he wants it? To what kind of education should we be committed?

Schiffers — Davringhausen, Heimrich, Quest For Africa: 2000 Years Of Exploration. Translated from the German, this book by an eminent geographer-historian divides the African continent into seven major areas and then describes the exploration and history of each division, giving the reader a background for understanding existing conditions.

American Assembly. The United States and Africa. These essays, prepared for the participants in the 13th American Assembly held at Columbia University, open with a discussion of relations between the United States and Africa. The remainder of the book is devoted to the present economic, political and social situation on the African continent.

Lystad, Robert A. The Ashanti: A Proud People. Written in a simple, lucid style, this account of the daily life, religion, economy and education in an Ashanti village is an example of how demands of 20th century living are met by people with their roots still deep in the past.

Carter, Gwendolen M. The Politics Of Inequality: South Africa Since 1948. After intensive study, the author presents a detailed examination of the South African scene, including the structure of political parties, electoral campaigns and parliamentary history, as well as an impartial review of the policy of apartheid and the struggle between the Africans and the English South Africans.

Bascom, William R. and Herskovitz, Melville J. Continuity And Change In African Culture. Written by members of the Department

Hardin to Serve On Health Unit

Chancellor Clifford M. Hardin has accepted an invitation to serve a four-year term as member of the National Advisory Arthritis and Metabolic Diseases Council of the Public Health Service.

The Council recommends to the Surgeon General grants to support nongovernmental research. The group also will survey the total research and recommend necessary action to stimulate additional work in gap areas.

Watch Repair on Campus 1-2 Day Service DICK'S WATCH SERVICE in Peden's Bookstore Across Street From Love Library

Porter to Teach Bridge in Union

Free bridge lessons under the supervision of James G. Porter will begin Tuesday at 4 p.m. in the Indian Suite of the Nebraska Union.

The first lesson will consist of basic fundamentals with a chance for play and questions. There will be four one-hour lessons on succeeding Tuesdays at 4 p.m.

A tournament will be held Tuesday, July 19, at 2 p.m. in

the Indian Suite. Trophies will be awarded to the winners.

Porter has taught bridge for several years during the regular session. This will make his second year as an instructor for the summer session.

Hardins Entertain Visiting Faculty

Visiting faculty members and guest lecturers will be guests Tuesday noon of Chancellor and Mrs. Clifford M. Hardin at the Chancellor's annual luncheon for visiting professors.

The luncheon in the Pan American room of the Nebraska Union is to be followed by a tour of the campus conducted by Adam Breckenridge, dean of faculties.

New Ingredients in Old Recipe Tested by Home Ec Students

Continued from Page 1 class so that the flavor added by the ingredients being treated may be accurately judged.

A planimeter will be used to measure the irregular surfaces of the cookies after they have been baked. Otherwise regular kitchen utensils are used unless they will not fulfill the need of the experimenter.

Accurate Measurements All measuring of ingredients in these experiments is done either in gram weights for solids or in a graduated cylinder for liquids. This insures accuracy, Dr. Brooks explained. Ingredients are weighed more than once for exactness and each product is weighed before and after cooking.

Pream, powdered cream, is being added to caramels to increase their nutritional value and decrease their

cost. The problem involved here is how much powdered cream is needed to replace liquid cream and what effect the Pream has on the consistency of the caramels, said a dietetics major while stirring the bubbling caramel mixture.

A problem involving dry milk in biscuit and muffin recipes is also being studied. The girl working on this problem expected that adding the extra solids in place of liquid milk will cause terrific tunnels in muffins and cause tough biscuits.

When she took them from the oven, she noted the course texture of the test biscuits and muffins in comparison to the control products which were made according to an ordinary recipe.

Egg Substitute Substituting gelatin for eggs in caramel custard is the job of a Filipino girl. She

is trying to maintain the same texture of the custard but cut down the number of eggs needed. She is making her own brown sugar syrup for the caramel flavor and is using Carnation condensed milk "because that is the only brand available in the Philippine Islands," she said.

A honey-orange juice cake is the aim of one of the home economics majors in the class. She is replacing the sugar with honey and the milk with orange juice. Since honey contains liquid, she will try different amounts in place of the original amount of sugar, she explained.

Each girl is working with one individual problem, but the methods and experience she gains in the process will be valuable in her future work with foods, said Dr. Brooke.

"Young Thesis"

This work is good training in research, she said, for each girl must write a "young thesis" on what she has done. This must include the result of each day's work, a short report on material written about the ingredients she has used, score sheets of each sample, results and conclusions and a summary of her work, Dr. Brooks said.

Students must have a chemistry background to take this course.

Dr. Brooks explained that the class does not have enough time to repeat and confirm their findings, but the girls get satisfaction from working out these problems.

A recipe may have two or three variables, but only one ingredient may be varied at a time, Dr. Brooks said, or otherwise results cannot be accredited to a particular cause.

Three Seniors Give Recital

Three seniors in the School of Music will perform in the senior recital to be given Thursday, at 3 p.m. in the Social Science Auditorium.

The three soloists are: Carol Crandell, soprano. Carol is a member of Madrigals, Singers, orchestra, band and Mu Phi Epsilon, music honorary. She will perform five works, including an aria from "Cavalleria Rusticana" by Mascagni.

Mavis Dvorak, piano. She is a member of Mu Phi Epsilon. Mavis will play four numbers, including a work by Beethoven.

Erwin Hoffman, French horn. He is a member of Phi Mu Alpha Symphonia and will perform three works, including a movement from a Mozart concerto.

The senior recital is a requirement for graduation with a Bachelor of Music in Education degree.

The three students plan to graduate at the end of the Summer Session, according to the office of the School of Music.

Medical Grant Given

A research grant of \$2,000 has been given to the University of Nebraska Department of Internal Medicine. The grant is to be used for gastrointestinal research. Its use will be directed by Dr. F. F. Paustain.

Nebraskan Want Ads

5 cents a word; \$1.00 minimum. Ads to be printed in the classified section of the Summer Nebraskan must be accompanied by the name of the person placing said ad.

Furnished apartment, 502 So. 12, living room, Murphy bed, kitchen, private bath, dressing room. Married couple. 222-50, HE 2-4649.

Do you need a German tutor? Call EN 8-0022.

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